

Chapter 3

Teaching in Small Groups

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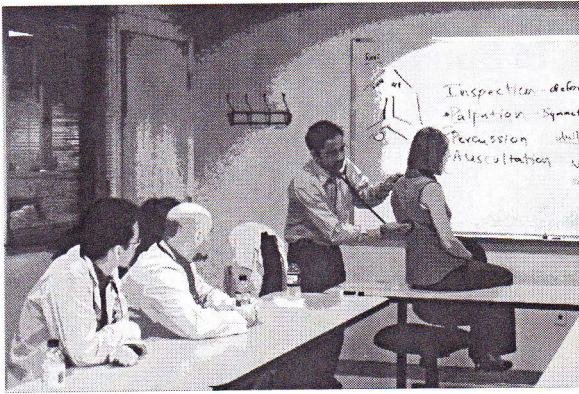
There are many unique benefits to teaching and learning in small groups. Recognizing this, many medical schools have increased the amount of time devoted to small group learning. Very few faculty members, however, have received instruction for leading small groups. This has contributed to misperceptions about the value of small group learning. It also explains why many faculty members do not feel confident teaching in this setting. Teaching in small groups can be satisfying and even inspiring, but it can also be time consuming and dispiriting when difficulties arise. To ensure effective small group teaching, you must first understand the purpose for the small group and then select activities for the group that will enable learners to achieve the learning objectives. Understanding both your role as the teacher and the dynamics of the group will help you foster participation among group members.

Reasons for Teaching in Small Groups

There are many advantages to teaching in small groups. The smaller number of participants means that you will have an opportunity to know your students' names and become familiar with their knowledge, learning styles, and prior learning experiences. As the course progresses, you will be able to conduct ongoing assessment, both formal and informal, of learners' comprehension and application of the course content. This will enhance your efforts to target your teaching strategies. Learners in a small group benefit because they have increased contact time with their instructor. You will find learners are more comfortable asking questions during small group sessions than larger lectures.

There are significant educational outcomes associated with teaching and learning in small groups. The small number of learners promotes engagement between learners, the instructor, and the content. You will be able to introduce activities that require learners to move beyond the recall and recognition of concepts. When teaching in small groups, you can ask learners to employ higher-order thinking skills

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such as analysis, reasoning, and criticism. To do this, you might create opportunities for learners to demonstrate problem-solving skills. These activities will allow you to assess if your learners are able to apply new knowledge and concepts. Similarly, the small group provides a venue for learners to rehearse material they have read or learned in lectures. They can pose questions about the material, discuss inconsistencies, and propose applications of the material. This will help learners to see and understand the connections between the material in your course and others in their area of study. As the small group facilitator, you can provide learners with information about the context for the material and its relevance. This will also assist learners in understanding and applying new knowledge.

Small groups offer two additional educational outcomes. First, the small size and increased engagement of the group promote reflection on learning. Recognizing what you have learned, what you do not know, and what you still need to know is essential to becoming a professional. This is the foundation of lifelong learning, and you can model this for your learners. In addition to fostering reflection on learning, small groups provide learners with opportunities to develop the interpersonal skills necessary to work in a group or team setting. This is becoming more important as health care is increasingly provided by teams of diverse professionals. Participation in small groups can improve skills in active listening, presentation, negotiation, group leadership, and cooperative problem solving.

Definition of Small Group Teaching

Teaching and learning can occur anywhere, but some learning objectives are best achieved by small group teaching. Small groups are often used to complement lecture-based courses. When this occurs, the small group meets to discuss the lectures or readings. Small groups are also ideal for working through cases that integrate material from the lectures or other required courses. Small group teaching and learning also occur in problem-based curricula and laboratory courses. Each of these

small group activities presents unique considerations for planning and teaching, and will be discussed elsewhere in this book.

The size of small groups can vary considerably in medical education. Research has demonstrated that groups composed of five to eight learners are the optimal size. However, limitations posed by physical space and faculty availability lead many medical schools to organize small groups with more than eight learners.

The size of the group is not the only determinant of small group teaching. In medical education it is not unusual to find learners in a small group session listening to a lecture given by the instructor. This is not small group teaching. Newble and Cannon (2001) cite three important characteristics of small group teaching:

- Active participation.
- Purposeful activity.
- Face-to-face contact.

Active Participation

To realize the educational benefits of small group teaching, it is essential that all members of the group participate. The small group size will ensure there is time and opportunity for all learners to contribute to the discussion or activity. This is important because you will want to assess each learner's development in knowledge and understanding. Greater participation among all group members also ensures sufficient opportunities for learners to hone their communication and team skills. If the group is larger than eight learners, you can still use small group teaching methods, but will need to be both creative and deliberate in planning the activities. Some of the techniques for teaching in small groups can be accomplished successfully if you create multiple subgroups within the existing small group.

Purposeful Activity

We have all had the unpleasant experience of participating in a meeting or small group session where there is no agenda or plan for the activity. The lack of purpose creates frustration and anxiety, and contributes to the feeling that our time was mispent. This is not unlike the experience learners have when small group teaching is not organized around purposeful activity. The purpose, or goal, you create for each session may be broad, but then the session and discussion should be organized to accomplish this goal. In addition to determining the content focus of the session, you will also want to think about the other learning outcomes that can be achieved during the session, such as critical appraisal of the literature or team negotiation. Too much activity can also become a problem, especially if it limits participation by all group members. Developing a plan for each session will help ensure that learners remain engaged and that the goals of the session are met. A small group session

plan is also helpful for small group leaders who are less experienced or less skilled in small group teaching. The plan will provide guidance on how to structure the session activities and manage time effectively.

Face-to-Face Contact

While recent advances in instructional technology have fostered effective strategies for online or e-learning, the type of small group teaching described in this chapter requires face-to-face contact. A synchronous, or “real-time,” discussion requires that learners demonstrate presentation skills or work collaboratively to apply knowledge and solve a new problem. As the instructor, you will be able to observe these skills and also learners’ non-verbal communication skills such as eye contact and posture. Likewise, learners need to be able to see the other members of their group, and it may be necessary to reconfigure the room so this can occur. If possible, reserve seminar-style rooms or rooms with furniture that can be re-arranged easily.

Preparing for the Small Group Session

Preparing for small group teaching begins like preparing for any other type of teaching. First, determine the learning objectives for the session. One way to do this is to write a list of outcomes, where each statement begins “By the end of this session, learners will be able to. . .” As you fill in the blank with a knowledge, skill or attitude objective, remember that the small group session is an appropriate place to ask learners to demonstrate higher-order thinking skills such as reasoning and critical appraisal. Taxonomies, such as those developed by Bloom (1956) and revised by Anderson et al. (2001), provide guidance on classifying learning objectives. Consult Chapter 1 of this book for a review of learning objectives and taxonomies of thinking skills, including an overview of a taxonomy developed by Quellmaz (Stiggins et al., 1988). Review your list of objectives periodically, and ask yourself if the small group is the best place to teach and learn each objective.

After you have determined the learning objectives for the session, review the characteristics of the learners enrolled in the small group. Is this course their first introduction to the subject matter? Can you assume they have all completed similar core courses or prerequisites? The answers to these questions will help you determine expectations for their participation. Are you acquainted with the learners already? Are they acquainted with each other? This is important to know before asking learners to work collaboratively or discuss sensitive topics.

The next step in planning the small group session is to determine the structure for the session. First, review the amount of time allotted for the session and the total number of sessions for the topic and course. Then establish which objectives will be addressed in each session. If you are responsible for planning a session within a series of small group sessions, review your colleagues’ plans to ensure your

coverage of the content is complementary and not redundant. Next, determine the appropriate activity for teaching and learning the objectives. For example, you might begin the session by inviting learners to discuss points that were unclear in the recent lecture. Then the session might continue with discussion of a case and conclude with time for learners to reflect on the case and ask questions. To ensure that you accomplish all planned activities within the allotted amount of time, develop an agenda for each session. An example of an agenda for a small group discussion session in a medical ethics course is illustrated in Table 3.1.

Table 3.1 Agenda for a small group session in a medical ethics course

Activity	Time (min)
Attendance and announcements	5
Student presentation of ethics case	10
Presenters identify 2 unresolved ethical questions	5
Group discussion of the case and questions	20
Student presentation of case and commentaries from textbook	10
Group discussion of the case and commentaries	20
Wrap-up and review of deadlines for upcoming assignments	5
Total session time	75

Do not feel that the agenda or schedule cannot be changed, however. You will need to adapt the plan as the session unfolds. Some tasks may require less time than you estimated and it will be appropriate to begin the next activity earlier than planned. During some sessions, you may need to re-allocate time to clarify difficult concepts or address questions that arise. The outline should be a guide and not a rigid schedule. Over time, you will feel more comfortable adapting the schedule.

Leading the Small Group Session

Thoughtful preparation before teaching small groups will lead to well-organized sessions that are integrated into the curriculum for the course. However, careful planning can only ensure part of the success of teaching in small groups. As a small group facilitator, you will soon find that your leadership and the dynamics of the group are critical elements.

Attributes of an Effective Small group Teacher

Effective small group teachers are well prepared for each session and are acquainted with goals and objectives for the entire course. Take time to become familiar with the lecture topics in the course, especially those that relate to the cases or topics discussed in the small group session. The time you spend preparing in advance of each small group will improve the organization and flow of each session. You may also find you spend less time on learners' questions about the administrative details



of the course and more time on learning. How you conduct yourself during the session may be even more important than how much you prepare. Your primary focus is the learner, and not the content or activity. Effective small group teachers demonstrate interest in and respect for their learners. One way to do this is to introduce yourself at the first session, and briefly tell learners about your role in the course or other responsibilities in medical education. Also, remember to let learners know how to reach you if they have questions outside of the small group session. Another way to demonstrate respect for your learners is to recognize that each small group will be composed of learners with different personality types and learning styles. These shape learners' responses to the tasks and roles that are assigned within the group. Two sources for information about personality types are the Myers-Briggs Type Indicator (1995) and Keirsey Temperament Sorter (1998). Both instruments provide insight into an individual's predispositions and attitudes. These tests do not assess ability or psychological traits; instead, results from these profiles can help to explain how individuals differ when making decisions or obtaining new information. To better understand differences in individuals' preferences for learning, consult David Kolb's Learning Styles Inventory (LSI) (1984). The LSI is a well-known model of learning styles based upon a cycle of learning that describes how all people learn. Kolb's theory of experiential learning will be described in greater detail in Chapter 7.

While effective small group teachers appreciate the differences among learners, they also understand that their own personality type and learning preferences may differ from those of their students. Our preferences even influence our leadership style in the small group setting. For example, some teachers are highly-skilled at lecturing to large groups. They may prefer to teach and learn in this type of environment where attention is focused on the individual instructor and there is minimal interaction with the group. For this individual, moving to the interactive, small-group

setting can be challenging. It is not unusual for this type of teacher to revert to lecturing within the small group, especially if they perceive group activity as difficult to manage. Acknowledging these preferences for teaching and learning will help you to recognize when your own style begins to overshadow the learner-centered approach.

Effective small group teachers also promote a learner-centered approach to small group teaching by providing frequent, formative feedback. This type of feedback helps learners to assess their progress and make changes while the course is still in progress. Feedback should be specific so that learners recognize which element of their performance should be improved or, in the case of positive feedback, continued. Specific examples and constructive suggestions for improvement will enhance the quality of feedback.

Conditions for an Effective Small Group Session

Successful small group sessions rarely occur simply because of an enthusiastic teacher or motivated learners. Effective, learner-centered groups require multiple conditions for success. First, each group should agree upon ground rules such as no late arrivals or criticism during idea-generating activities. If students are new to small group learning, you may want to explain that all learners have a right to participate, but they can pass or occasionally request assistance from a classmate. Likewise, you may want to discuss rules to limit speaking too frequently during the sessions. These basic rules will help to promote respect among group members and develop group cohesion. If you engage learners in determining expectations for peer behavior, you will find they are more invested in the group and more likely to adhere to the group's norms for behavior. Second, each small group should discuss clear guidelines for participation and assessment. As the small group teacher, you should explain your expectations for participation and how this contributes to the evaluation of learners' performance. When learners are confused about the criteria for assessment, they may become anxious and less willing to participate. Take time to clarify the roles that learners will play in the small group, such as presenter or reporter, and explain how often learners will change roles. Likewise, explain to learners which resources they are responsible for bringing to the session so that they arrive prepared. Small group sessions are less likely to become unfocused or unproductive when learners are prepared and informed about the purpose and expectations for the session.

Finally, small groups generally flourish in an environment that is cooperative and collaborative, rather than competitive. While occasional friendly competition, such as a quiz-show activity, might engage the group and promote collegiality, a pervasive environment of cut-throat competition will stifle participation. As a small group teacher, you can develop activities that require collaboration and should intervene when an overly competitive learner seeks control of the session or resources.

Understanding Group Dynamics

Small groups in medical education share many characteristics with small groups or teams organized for other professional purposes. Scholtes et al. (2000), building upon earlier work by Bruce Tuckman (1965), describe a four-stage process that all groups undergo. This model is useful for anticipating learners' attitudes and behaviors in your small group. In the first stage, called **forming**, group members feel excitement, anticipation and optimism. Some learners may also experience anxiety or suspicion about the work ahead. Scholtes encourages leaders to help the group members become acquainted and develop rules during the forming stage. In the second stage, **storming**, learners may exhibit resistance to tasks or express concern about excessive work. Arguments between group members may arise. The effective small group teacher will help learners resolve these issues. In the third stage, **norming**, groups demonstrate acceptance of small group members. A developing sense of cohesion fosters discussion and constructive criticism. During this stage, effective small group teachers will promote collaboration. The final stage, **performing**, is characterized by the group's ability to work through problems. Scholtes notes that group members now have a better understanding of each others' strengths and weaknesses. The effective small group teacher will monitor progress and provide feedback during this stage. Groups will differ in how much time they spend in each stage of the process, but will ideally spend most of their time in the latter stages. As the small group teacher, you can observe the group and facilitate appropriate transitions between stages.

Small Group Discussion Methods

There are many approaches to teaching in small groups but the most successful ones are organized around a purposeful activity. In medical education, the structured case discussion is a common approach. Learners present a patient case and then work together to accomplish tasks such as developing a diagnosis and management plan. As described earlier in Table 3.1, a structured case discussion session typically allows the majority of time for individual learner presentations and group discussion. A limited amount of time is allocated for the small group leader to open and conclude the session and, as needed, clarify aspects of the case that are unclear. The structured approach to the case discussion means that time is allocated for each task. This ensures that the discussion is organized and stays on course.

While the case is a common stimulus for small group discussion in the health sciences, there are other materials that can be used to organize or initiate discussion. Examples of stimulus material include:

- A brief audio or video presentation.
- Visual material pertinent to the discussion (e.g., diagnostic images or charts).
- Material available via the Internet.
- A journal article or other thought-provoking written material.
- A real or standardized patient.

- Observation of a role play.
- A “one minute paper” that learners write and then share.
- A brief multiple choice test.

Variations in Small Group Teaching

In addition to case discussion, there are other methods that can be used in teaching small groups. When you prepare to teach in a small group setting, consider the purpose or goal for the session, and then select a technique that is best suited to achieving the learning objectives. Sometimes it is useful to introduce a different technique to promote learner interest and engagement.

1. *One-to-one discussion*: The one-to-one discussion is easy to facilitate and effective for many topics. To use this technique, organize the group into pairs. As the small group teacher, you can participate in this activity as well. One member of each pair should talk on the assigned topic for 3–5 minutes, without interruption. The roles are then reversed and the other member of the pair becomes the discussant. You may need to remind the group periodically that questions and comments should be held until later in the session. After the pairs have concluded their one-to-one discussion, the group reconvenes and each person provides a brief summary of the comments made by their partner. This technique helps learners to develop listening, summarization, and presentation skills. The one-to-one discussion is effective as an introductory ice breaker, where learners use the discussion and presentation time to meet and learn more about their colleagues. This small group technique is also valuable for discussing topics that are emotionally-charged or controversial. By assigning learners to pairs and enforcing the time limit, everyone in the group will have an opportunity to participate. This approach will also ensure that garrulous or opinionated learners do not take control of the session.
2. *Buzz groups*: This small group discussion technique is used to engage learners and re-energize the group. To initiate the buzz group, pose a question and ask learners to discuss their responses in pairs or groups no larger than four learners. The room will soon be buzzing with conversation. This technique is useful for making a transition from one discussion task to another, or for encouraging learners to share ideas or concerns they might be reluctant to share with the entire group. As a small group teacher, your role is to facilitate the process and use the buzz group as a source of informal feedback about learners’ understanding of the course material.
3. *Snowballing group discussion*: The snowballing group discussion is a variation on buzz groups and is named for the progression of activities during the session. With each step in the sequence, the size of group increases. Learners begin by working individually, then in pairs, and then in small groups. The session concludes with time for reporting back to the entire group. Snowballing group discussions are useful because they foster interaction among all members of the group. This discussion technique also provides time for all learners to complete

- their individual preparation before working with other group members. The one drawback is that learners may tire of the topic or task, so you should plan to vary the task or increase complexity with each step.
4. *Group round*: The purpose of this small group discussion technique is to involve everyone in the group and generate interest in a topic. Each learner provides a brief response, no more than one minute, before moving on to the next learner. There are several ways to determine the order in which learners will participate. For consistency and efficiency, the teacher or group can determine the order at the beginning of the session. For a more spontaneous approach, the learner who is speaking can select the next learner, and this continues until all members of the group have participated. This method will generate more interest and engagement than the former two approaches. Learners may be permitted to pass at least one time during the group round.
 5. *Brainstorming*: Brainstorming sessions are used to produce a large number of creative solutions or hypotheses in a short amount of time. This technique is also effective for encouraging learners to recall material learned at an earlier time. After a question or topic is identified, learners are asked to name ideas as they think of them. The group is forbidden to critique the ideas until after the brainstorming session has closed. Brainstorming promotes interaction within the group, but there are limitations to this strategy. For example, some learners may require more processing time to generate new ideas, and may not feel like they have much to contribute to the session until afterwards. Another potential problem is that some learners may choose not to participate. These “social loafers” may not have prepared sufficiently, and will gladly let others conduct the work of the group.
 6. *Role-playing*: This strategy is particularly useful for learning and practicing communication skills such as interviewing or history taking. For some role-play sessions, it is possible to ask learners to play all of the roles (e.g., physician or patient) in the case or simulated encounter. For more advanced role-plays, including those that cover sensitive topics, it may be more appropriate to recruit and train standardized, actor patients. An example of an agenda for a role-playing session used in a course on interviewing skills is illustrated in Table 3.2.

Table 3.2 Agenda for a role-playing session with 2 practice interviews

Activity	
1	Attendance and announcements
2	Overview of the learning objectives and skills to be assessed during the interviewing session
3	Student 1 exits the room and waits for his/her interview
4	Student 2 interviews the Standardized Patient
5	The group provides feedback to Student 2
6	Student 1 interviews the Standardized Patient
7	The group provides feedback to Student 1
8	Wrap-up and review of key learning objectives



Small Group Teaching and Technology

Technologies such as SMART™ boards, video, web-based reference materials, computer exercises, conferencing and simulation can enhance small group learning and promote purposeful activity. Educational technologies have also made it easier for learners and teachers to communicate and share information outside of scheduled small group sessions. These technologies will be discussed in greater detail in Chapter 9, but it is worth noting that online communities, such as blogs, wikis, and discussion boards, can be used to enhance the work of a face-to-face small group. For example, you might ask learners in your small group to maintain a blog and post brief reflections or questions after sessions that are particularly challenging. Unlike a traditional journal, the blog can include hyperlinks to other Web-based content, and can be accessed easily by others.

Evaluation of Small Group Participation and Learning

Evaluating small group participation and learning sends a message to learners that the activity is a meaningful part of the curriculum. Learners are also more likely to participate and prepare for the session if they know their contribution will count. Criteria for assessing participation should be explicit. When possible, invite small group learners to participate in determining some of these criteria so they feel responsible for their learning and the success of the group. This should occur soon after the course begins, often at the time the group establishes rules and norms. Examples of criteria to assess participation include these expectations of the student:

- Contributes to the discussion with evidence of preparation.
- Provides comparative assessments.
- Builds upon others' contributions.
- Willing to listen to others.
- Respects different viewpoints.

- Provides constructive criticism.
- Helps to summarize the discussion.

When establishing the criteria for small group participation, take care to not create a high-stakes environment. If learners are anxious about participation, they will not participate fully. You may also need to remind the group periodically about rules or norms to prevent the same learners from dominating the discussion.

Evaluation of Small Group Teaching

Teaching in small groups, like any teaching activity, will benefit from evaluation by learners and faculty. To evaluate your teaching, you will need to collect information that accurately describes the activity and then make a judgment about this information. Evaluation of teaching is discussed in greater detail in Chapter 12, but a few points specific to teaching in small groups merit attention here.

Informal Evaluation

Informal, ongoing evaluation can be useful for identifying aspects of the small group experience that detract from learning but can be corrected while the course is still in session. Examples of methods to collect informal evaluation data include brief online surveys; fast feedback cards collected at the end of a session; and periodic group debriefings.

Formal Evaluation

Formal evaluation of small group teaching should draw upon multiple sources of data and seek to promote validity and reliability. One source of data is student evaluations or questionnaires. Most departments or schools provide these, and items typically address topics such as the small group instructor's ability to facilitate the group, contribution of small group activities to improving understanding of the material, quality of resource materials, workload or amount of material covered, organization of the small group activities, and feedback on learning. Peer review of teaching is another source of valuable data. Colleagues who are knowledgeable about the subject can observe and evaluate how well the small group sessions promote discussion and understanding of key concepts. Colleagues who are not content experts can provide helpful insight into group dynamics and your skills as a facilitator. If your school does not provide resources for peer review of teaching, consult Chism's (2007) comprehensive guide to peer review of teaching. This includes resources and observation forms to ensure standardized assessment. A third source of data is video recordings of small group sessions. Some small group instructors

find it helpful to review recordings, sometimes with the assistance of an educational consultant or trusted colleague, to identify aspects of teaching that are effective or require improvement. While all of these methods can provide useful data, be careful to ensure reliability by examining your teaching on multiple occasions. The interactive and personal nature of small group teaching makes it rewarding, but also highly variable.

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For Further Reading

For a concise summary of recommendations for teaching in small groups, review

Jacques D (2003) ABC of teaching and learning in medicine: Teaching small groups. *British Medical Journal* 326: 492–494.

For an in-depth examination of the concepts and techniques introduced in this chapter, consult

Westberg J, Jason H (1996) *Fostering learning in small groups: A practical guide*. Springer, New York.

For further reading on the conditions for establishing effective small groups, read

Wlodkowski RJ (1999) *Enhancing adult motivation to learn*. Jossey-Bass, San Francisco, CA.